

Notice of Allowability

Application No.

09/590,985

Examiner

Dah-Wei D. Yuan

Applicant(s)

ALLCOCK ET AL.

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/15/03.
2. ☒ The allowed claim(s) is/are 1-13.
3. ☒ The drawings filed on 17 September 2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All ☐ Some* ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____.
5. ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet, 37 CFR 1.78.
- (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet, 37 CFR 1.78.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No. _____
- (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
- (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the margin according to 37 CFR 1.121(d).

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- 1 ☐ Notice of References Cited (PTO-892)
- 2 ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3 ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/06), Paper No. _____
- 4 ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
- 5 ☐ Notice of Informal Patent Application (PTO-152)
- 6 ☐ Interview Summary (PTO-413), Paper No. _____
- 7 ☐ Examiner's Amendment/Comment
- 8 ☒ Examiner's Statement of Reasons for Allowance
- 9 ☐ Other

PROTON CONDUCTING POLYMER MEMBRANES

Examiner: Yuan S.N. 09/590,985 Art Unit: 1745 January 8, 2004

Detailed Action

1. The Applicant's amendment filed on October 15, 2003 was received. Claims 1,12,13 were amended.
2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action issued on June 18, 2003.

Claim Rejections

3. The claim rejections under 35 U.S.C. 112, first paragraph, on claims 1-4,6,7,9,10,12,13 are withdrawn because the independent claims 1,12,13 have been amended. The claim rejections under 35 U.S.C. 102(e) as anticipated by Formato et al. on claims 1,3,4,6,7,10,12,13 are withdrawn because the independent claims 1,12,13 have been amended. The claim rejections under 35 U.S.C. 103(a) as obvious over Formato et al. on claims 2,9 are withdrawn because the independent claims 1,12,13 have been amended.

Reasons for Allowance

4. Claims 1-13 are allowed. The invention of independent claim 1 recites a method of making a proton conducting polymeric membrane comprising dissolving a polymer in an organic solvent to form a polymer solution; adding an oxyacid to the polymer solution; casting the oxyacid-containing polymer solution onto a casting surface and removing the organic solvent so

as to form a proton conducting polymeric membrane, wherein the oxyacid is selected from the group of acids as stated in the claim. The closest prior art of record, Formato et al., does not teach or suggest the use of oxyacids as stated in the claim. In contrast, the Formato reference only teaches the addition of a polymeric acid in the polymer solution. The invention of independent claim 5 recites a method for making a proton conducting polymeric membrane comprising the steps of dissolving a polymer in an organic solvent wherein the polymer is a polyphosphazene as stated in the claim. The closest prior art of record, Formato et al, does not disclose or suggest a method for making a proton conducting polymeric membrane by using polyphosphazene. The invention of independent claim 11 recites a proton conducting polymeric membrane comprising a mixture of polyphosphazene and an oxyacid. The closest prior art of record, Formato et al, does not disclose or suggest a proton conducting polymeric membrane comprising polyphosphazene. The invention of independent claims 12,13 recites a proton conducting polymeric membrane made by a method comprising dissolving a polymer in an organic solvent to form a polymer solution; adding an oxyacid to the polymer solution; casting the oxyacid-containing polymer solution onto a casting surface and removing the organic solvent so as to form a proton conducting polymeric membrane, wherein the oxyacid is selected from the group of acids as stated in the claims. The closest prior art of record, Formato et al., does not teach or suggest the use of oxyacids as stated in the claim to fabricate a proton conducting polymeric membrane. In contrast, the Formato reference only teaches the addition of a polymeric acid in the polymer solution.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dah-Wei D. Yuan whose telephone number is (571) 272-1295. The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and After Final communications.

Dah-Wei D. Yuan
January 8, 2004

